same way examine another (Fig. 4); here the parasite is larger and requires more nourishment, consequently the root has changed its course, all the descending fluids passing into the parasite, while that portion beyond the parasite has dwindled down to less than half its former size; later it decays and falls away, leaving the whole root to the parasite, which is so well supplied that its cells always contain quantities of starch, while there is so much tannin in its juice, that a very good ink may be made by simply adding to it a small quantity of copperas, or sulphate of iron.—S. T. Fergus, *West Chester, Pa.*

Explanation of Plate I.—Fig 1. A young plant; the beech root was attached at A.

Figure 2. A vertical section from the lower part of Fig. 1. A, the point at which the beech root was attached.

Figure 3. Section through beech root, B, and parasite, C. The beech root healthy throughout.

Figure 4. Section through beech root, B, and parasite, C. The beech root at B in a dying condition.

Kentucky Fungi.

A sojourn of a couple of weeks at Norwood near Somerset, Pulaski Co., Kentucky, gave us thirty figures of fleshy or putrescent Fungi and upwards of fifty species of the more durable kinds, all new to our herbarium. We think we have five or six new species but these must remain awhile in the stocks to be well considered before being launched forth upon their independent being. New species of *Lactarii* are easy enough to find and Mr. Berkeley asserts that "the warmer states of North America abound with Lactarii quite different from the European species" but no one need expect to disentangle them unless he persistently *figures* and studies all the different forms he meets with. The same remarks apply to the *Boleti*.

It is not my purpose to catalogue everything observed, but merely to notice some of the more interesting species.

Agaricus palypyramis, *B. & C.* This is a large, coarse, heavy Amanita, the pileus studded with thick warts and the stipe rooting 3 or 4 inches into the ground. I find the spores subelliptic, with a slight oblique apiculus and measuring .009×.007 mm.

Agaricus Leaianus, *Berk.* This beautiful Mycena of the Cincinnati Catalogue, seems to be abundant everywhere east of the Mississippi. Its spores measure .0090×.0056 mm.

Agaricus Fenzlii, *Schulz.*, var. My specimen is this species except the stipe in not "sulphureo." Annularias are extremely scarce everywhere. I have never known of any except A. lævis, Krombh., being found in North America before.

Cortinarius squamulosus, *Peck.*, ranges from New England down here unchanged.

Russula virescens, *Schaeff.* A new species to us and furnishes a beautiful figure.

Lactarius Indigo, *Schw.* This is deep blue within and with-

out and exudes a blue juice. The spores are ochraceous, a little obliqué and .007 mm. long.

LACTARIUS ICHORATUS, *Botsch.* This species, I believe, is new to the record in this country. We added six new figures of Lactarii to our collection.

BOLETUS PURPUREUS, *Fr.* All the Boleti furnish gorgeous paintings. This one is a brilliant red with white flesh changing to blue.

BOLETUS ———near *Russellii*, Frost, but the spores are something enormous, measuring .018×.009 mm. It is awaiting Prof. Chas. H. Peck's determination.

BOLETUS RETIPES, *B. & C.* Mr. Berkeley would have better said *puberulent* than "pulverulent" in his description. I found no specimens with gray or brown pilei, so am disposed to consider *B. ornatipes*, Peck, a good species; nevertheless the two are very closely related. The spores are bright yellow, the same as the flesh. I give .011×.0056 mm. for their measurement.

FISTULINA HEPATICA, *Huds.*, might be found growing at the base of nearly every chestnut tree; the specimens were often perfectly magnificent. Dodham says "No fungus yields a richer gravy, and though rather tough, when grilled it is scarcely to be distinguished from broiled meat." We, however, would express a decided preference for Mrs. Lewis' broiled chicken.

HYDNUM. The species of this genus were very numerous; here is the list of conspicuous ones:

H. imbricatum, Linn.
diffractum, Berk.
infundibulum, Sw.
velutinum, Fr.
zonatum, Botsch.
adustum, Schw.
coralloides, Scop.
H. repandum, Linn.
suaveolens, Scop.
aurantiacum, A. & S.
cirrhatum, Pers.
glabrescens, B. & Rav.
flabelliforme, Berk.

The specimens of most of these were very fine indeed; I never before saw such large *H. repandum*. Linn. A figure of one lies before me: the pileus measures 5½ in. across, the stipe is 3 in. long and 1½ in. thick. They evidently grow much finer down south.

CLAVARIA. Species of this genus were numerous; among them *C. rufescens*, Schaeff, with its rosy tips. *C. formosa*, Pers., I here saw for the first time.

SCLERODERMA GEASTER, *Fr.* We thought we had some new and singular Geaster; but a view of the large fluffy spores under the microscope immediately revealed a *Scleroderma*.—A. P. MORGAN, *Cincinnati, O.*

Notes from Franconia.

To a botanist who has to teach all the winter, the summer vacation offers especial charms. He plans out in the previous winter how and where he shall spend it, and furbishes up his armor and appurtenances in the shape of *vasculum* and portfolio. My last summer